



Marine Debris Program



Marine Debris Program:

Program Overview and
Gulf of Mexico Issues

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WHAT IS MARINE DEBRIS?



Marine debris is “any persistent **solid material** that is manufactured or processed and directly or indirectly, intentionally or unintentionally, **disposed of or abandoned into the marine environment** or the Great Lakes.”

LAND-BASED SOURCES

Plastics



Cigarette Butts



Consumer products



Tires



OCEAN-BASED SOURCES

Fishing Pots



Fishing Line, Ropes, and Nets



Derelict Vessels



Offshore industry



NOAA/NOS/ORR/ MARINE DEBRIS DIVISION

Established in **2005**

December 2012: Marine Debris Act

Vision: the global ocean and its coasts, users, and inhabitants free from the impacts of marine debris

Who? Small staff of 16 that partner with many others!

How?

Research | Removal | Response

Prevention | Outreach & Education



PREVENTION

Outreach and Education partnerships

- Ocean Conservancy
- Univ. of Georgia - Marine Debris Tracker
- MDP annual funding opportunity

School activities

- **Art contest for K-8th grades**
- Marine Debris curriculum and activity books

Fishing for Energy

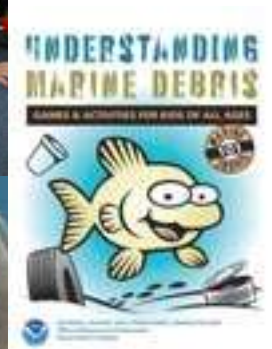
- Converting derelict fishing gear into energy
- NFWF funding opportunity



Marine Debris Tracker



Mobile App



REMOVAL

- Community-based removal grants in cooperation with the NOAA Restoration Center
- Funded nearly 80 projects since 2006, with thousands of metric tons of debris removed



RESEARCH

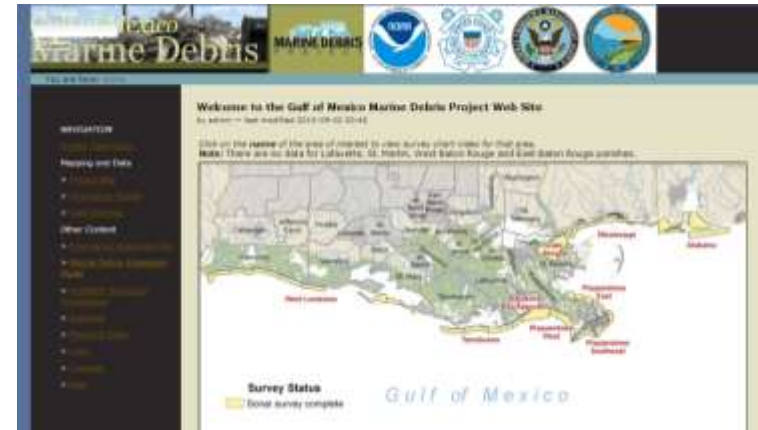
Joint projects with academia, NOAA partners include:

- Microplastics quantification
- Economic impacts
- Plastics and chemicals
- Shoreline monitoring and assessment
- Detection methods
- More to come...



RESPONSE

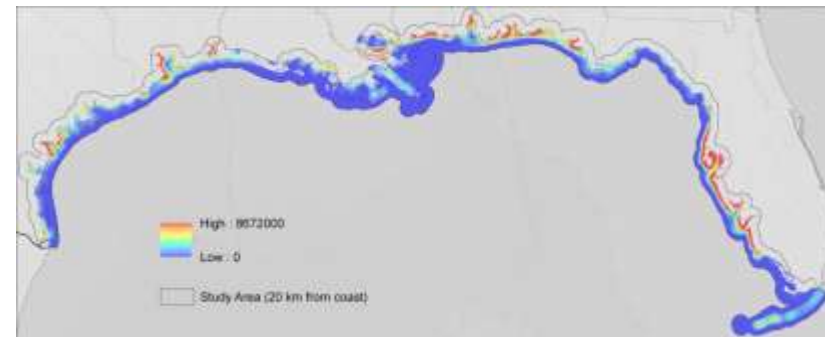
- **Hurricanes Katrina and Rita**
 - Mapped coastline to ID targets
 - Created model to estimate areas of highest concentration of marine debris
 - Created easy to use website for public to view targets
 - Worked closely with USCG, FEMA and states
- **American Samoa Tsunami**
- **Japan Tsunami Marine Debris**
 - Debris trajectory and modeling with help from NOAA partners
 - Shoreline monitoring support
 - Coordination role among state and federal stakeholders
- **Super Storm Sandy**



PROJECTS IN THE GULF

Past Projects:

- Litter Free Waterways Initiative—**Pascagoula River, MS**
- Debris mapping, assessment, and removal in **Calcasieu Lake, LA** and **Flower Garden Banks NMS**
- **Matagorda Island, TX** removal project collaboration
- Collaborating with **NOAA DRC** on Emergency Response Plan Guidelines and debris risk assessment for the GoM
- Assisted in Horn Island barge removal **Horn Island, MS**



PROJECTS IN THE GULF

Current Projects:

- Community-based education and removal to restore sea turtle and shorebird habitats in **northwest Florida**
- Derelict vessel research and removal in **Dog River, AL**
- South Florida lobster and crab trap debris education
- And more to come

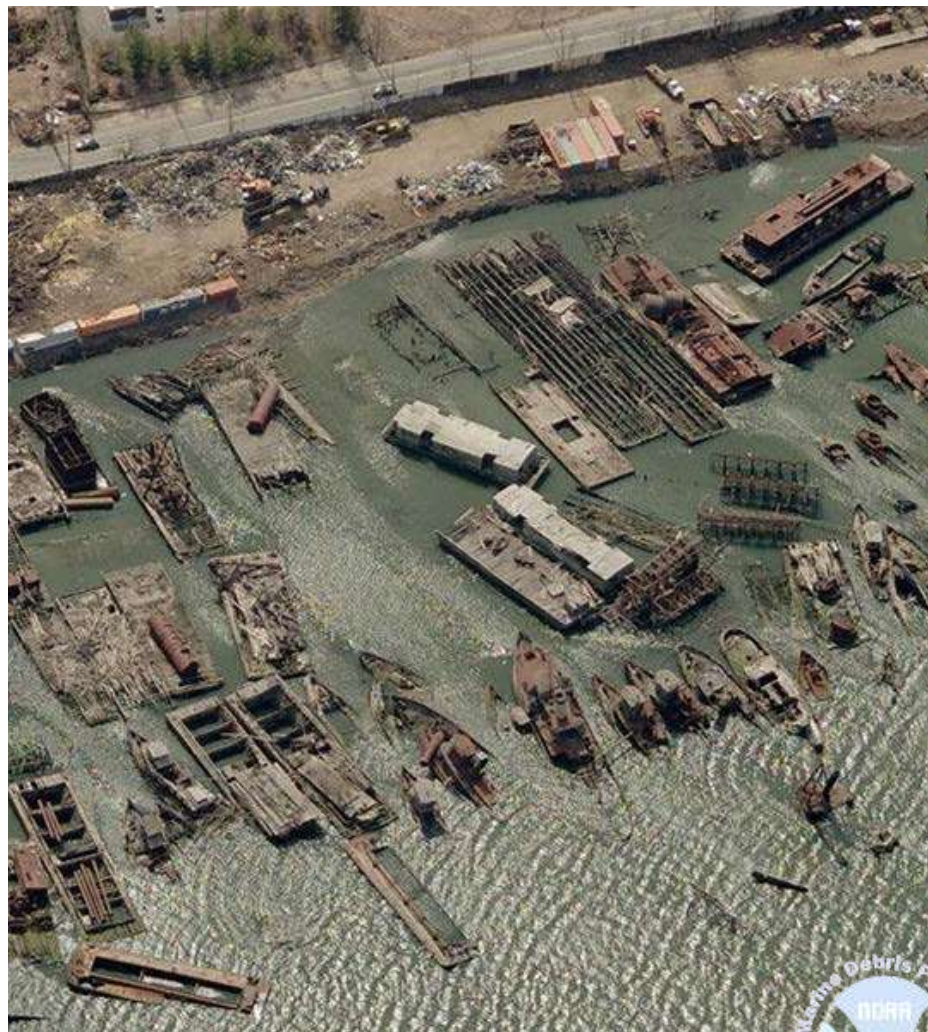


IS MARINE DEBRIS A PROBLEM IN THE GULF OF MEXICO?

Chronic



Acute



US Gulf of Mexico Data

Ocean Conservancy's International Coastal Cleanup (ICC) :
combined data from Alabama, Gulf Coast of Florida, Mississippi, Louisiana, and Texas

	2011	2012	Percent Change
People	35444	27616	-28%
Pounds	643424	889200	28%
Miles	1916	1373	-40%
# of items	768323	637200	-21%
pounds/person	18	32	44%
items/person	22	23	6%
pounds/mile	336	648	48%
items/mile	401	464	14%





IMPACTS SHOULD WE CARE?

Entanglement

Data from Florida Entanglement Working Group

- Stranding records from Florida (1997-2009)
- 1,958 strandings were evaluated to be gear-on entanglement cases (132 bottlenose dolphins, 433 manatees, and 1,393 sea turtles.)
- Entanglement for all species combined increased significantly over the years analyzed



Ingestion





OTHER MARINE DEBRIS IMPACTS

- Aesthetic Value
- Economic Cost
- **Habitat destruction**
- Vessel damage and navigational hazard
- Invasive species



Vision/ Goals

- State and/or regional level marine debris action plans
 - **Florida Workshop May 20-22**
- Emergency response marine debris plans encouraging preparedness and resilience
- Research:
 - What are the entanglement/ ingestion rates in GoM?
 - Monitoring program
 - *Sargassum* habitat and plastics
- Abandoned Derelict Vessels
 - Working with USCG Sector Mobile to better communication between states, locals and Feds
 - Creating an information hub

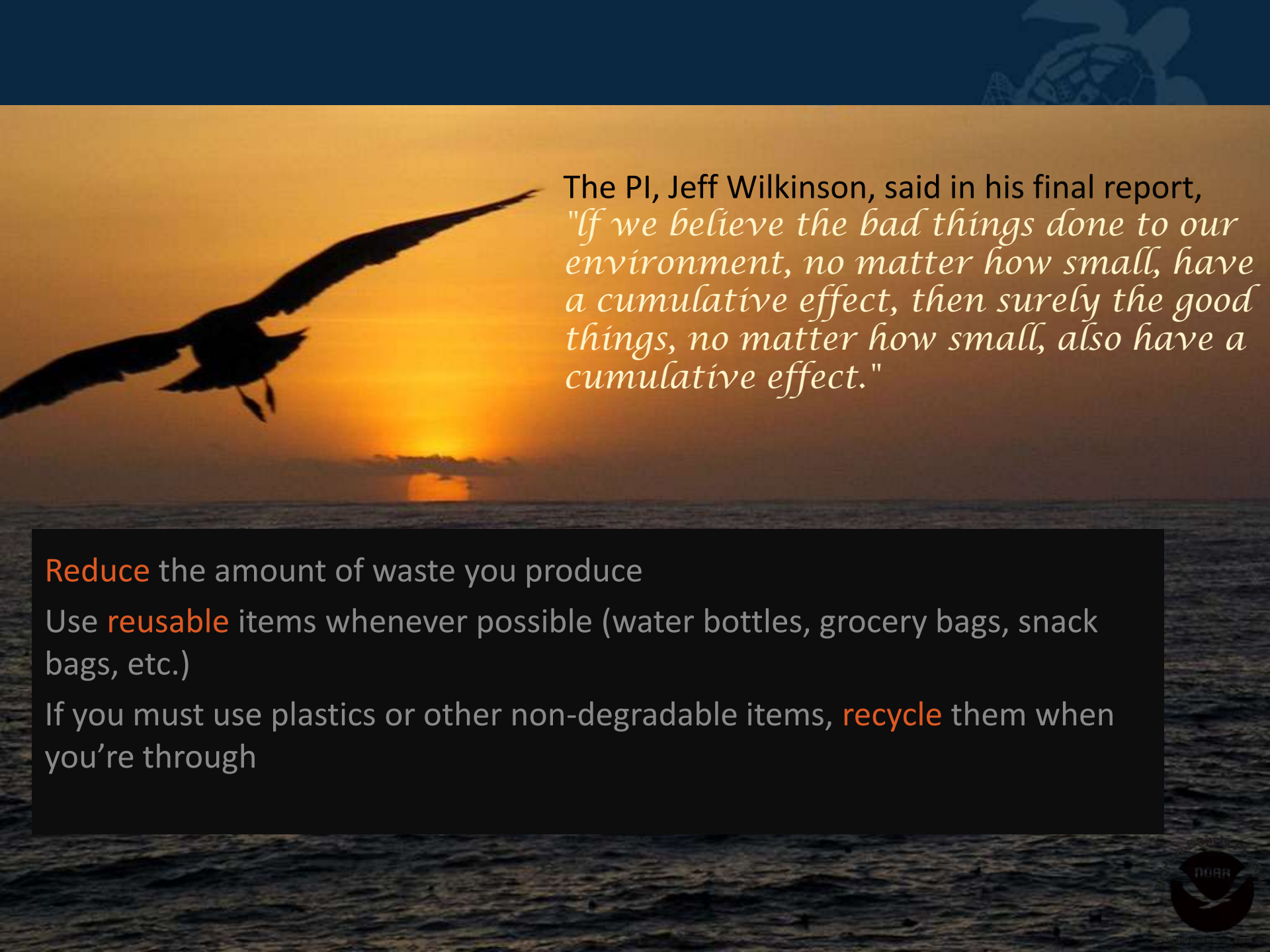


CZM and NERRs

- MDP funding opportunities
 - Removal grants generally deadlines in fall (November 2013)
 - Prevention through outreach and education (December 2013)
- Restoration of habitat, fish and wildlife through debris removal activities and possibly as a part of larger restoration projects
- Art contest for K-8th grades
- Marine Debris curriculum and activity books



Mississippi Sound

A seagull is shown in silhouette, flying from the left side of the frame towards the center. The background is a vibrant sunset over the ocean, with the sun low on the horizon, creating a bright orange glow. The sky transitions from a deep orange near the horizon to a darker blue at the top. The ocean surface is visible in the foreground, with gentle ripples.

The PI, Jeff Wilkinson, said in his final report,
*"If we believe the bad things done to our
environment, no matter how small, have
a cumulative effect, then surely the good
things, no matter how small, also have a
cumulative effect."*

Reduce the amount of waste you produce

Use **reusable** items whenever possible (water bottles, grocery bags, snack bags, etc.)

If you must use plastics or other non-degradable items, **recycle** them when you're through





Questions?

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www.MarineDebris.noaa.gov

ACKNOWLEDGMENTS:

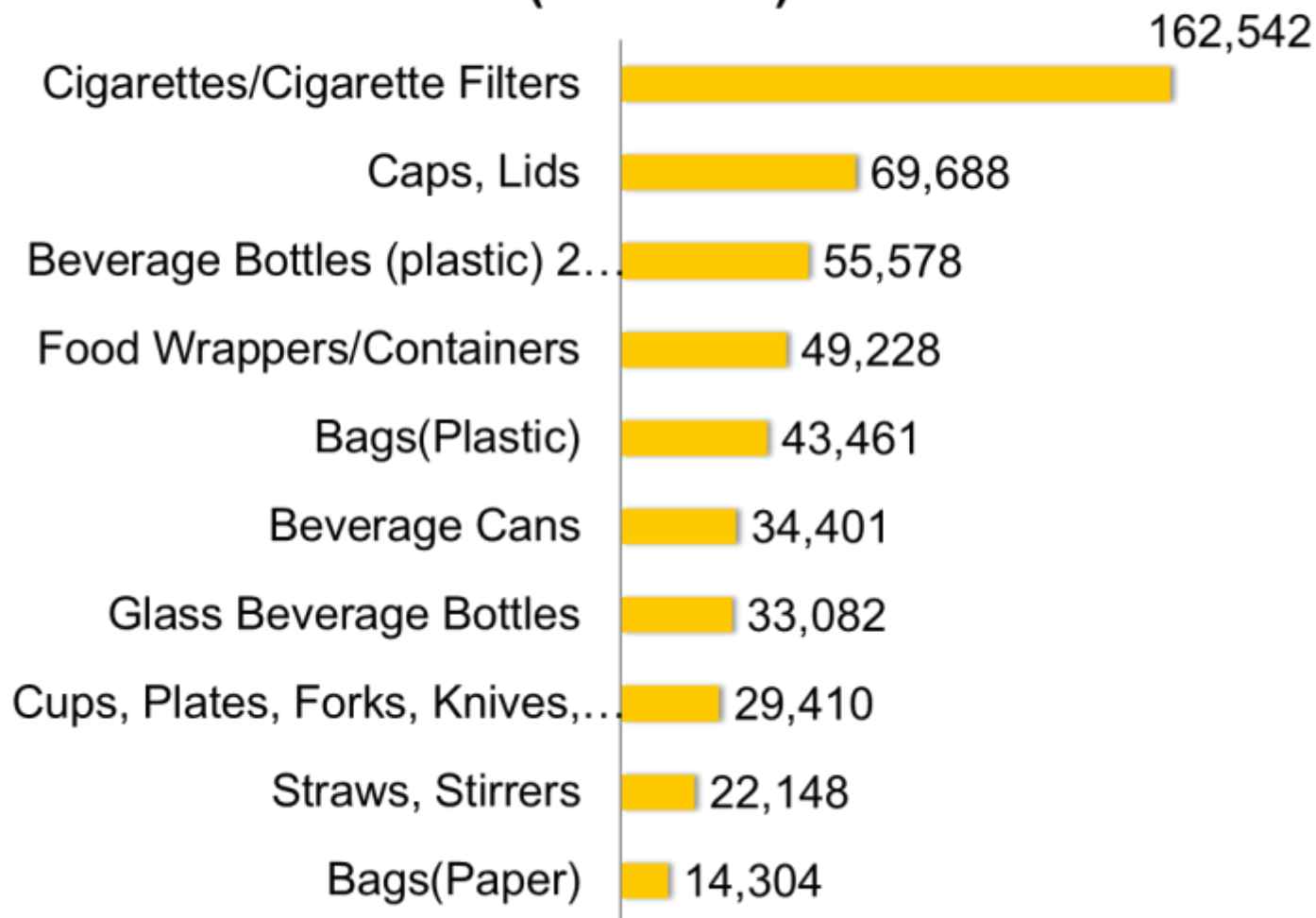
MDP team, Photos from: Doug Helton, Cheryl Bonnes, al.Blog.Com, Rob Nykvist, Gulf of Mexico Foundation, 5 Gyres, and others

PLASTICS

- Plastics are common form of marine debris
- Do not **biodegrade**! Can stay in environment for a long time
- Plastics break into small pieces (**microplastics**) due to exposure to sun
 - Known as '**photodegradation**'



Top 10 items from US Gulf Coast (ICC 2012)



MARINE DEBRIS PROGRAM

REGIONAL COORDINATORS

Pacific Northwest



Northeast



California



Southeast & Caribbean



Gulf Coast



Alaska



Pacific Islands

